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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,243

10/27/2006

Ralf Dunkel

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12/29/2008

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EXAMINER

CHU, YONG LIANG

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

12/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,243	Applicant(s) DUNKEL ET AL.	
	Examiner YONG CHU	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-28, 30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) 23, 26, 28 and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-22, 24, 25, 27 and 30 is/are rejected.
- 7) ☒ Claim(s) 21-22, 24-25, 27, and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/29/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 20-28, and 30-31 are pending in the instant application.

Information Disclosure Statement

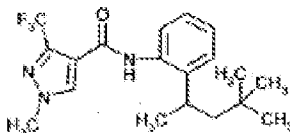
Applicants' Information Disclosure Statement, filed 09/29/2006 has been considered. Please refer to Applicant's copy of the PTO-1449 submitted herewith.

Priority

This application is a 371 of PCT/EP04/11397 filed on 10/12/2004, claims the benefit of foreign priority of German Patent Application No. 10349499.5 filed 10/23/2003, and 10352082.1 filed on 11/07/2003.

Response to Restriction/Election

Applicant's election with traverse of Group I (i.e. claims 20-22, 24-28, and 30)



and the elected species of compound as Example 6 in the Specification on page 46 in the reply filed 09/25/2008 is acknowledged. Applicant traverses the restriction requirement on the ground that the Group XII and Group XXIV should be examined together with Group I, because the generally accepted structural and chemical relationship between thiophene and thiophene-containing compounds corresponding benzene and phenyl-containing compounds according to a general organic chemistry text book. Applicants' argument has been fully considered, but is found not persuasive. Applicants fail to specify which relationship between a

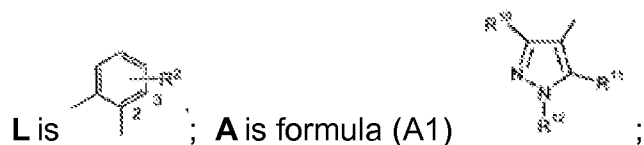
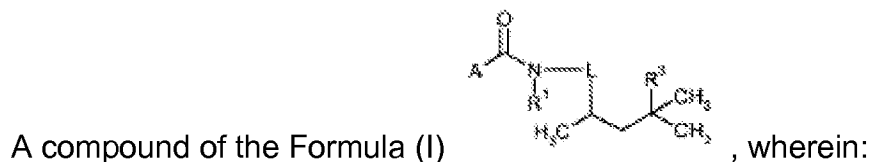
thiophene-containing compound and a phenyl-containing compound. The classification of the two classes compounds are different. Thiophene-containing compounds are classified under 549, but not phenyl-containing compounds. Finally, it is well-known that a thiophene-containing compound is prima facie patentably distinct from phenyl-containing compound, and a reference renders a thiophene-containing compound unpatentable may not necessarily renders a phenyl-containing compound unpatentable. However, Group XXIV (i.e. claim 31) may be subject to rejoin with Group I, if Group I is found allowable. The restriction requirement is indeed appropriate, and maintained.

Status of the Claims

Claims 23, and 31 are withdrawn from further consideration by the Examiner as being drawn to non-elected inventions under 37 CFR 1.142(b) due to the restriction requirement.

Searched and Examined Subject Matter

The scope of the invention of the searched subject matter and the examined subject matter is as follows:



R¹ is a hydrogen or C₁-C₈-alkyl;

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R² is represents hydrogen, fluorine, chlorine, methyl, or trifluoromethyl,

R³ is C₁-C₈-alkyl; and the remaining substituents are defined according to claim 1, or a composition comprising a compound thereof.

As a result of the election and the corresponding scope of the invention identified supra, claims 26, 28, and the remaining subject matter of claims 20-22, 24-25, 27, and 30 are further withdrawn from further consideration pursuant to 37 CFR 1.142 (b) as being drawn to non-elected inventions. The withdrawn compounds and compositions contain varying functional groups which are chemically recognized to differ in structure, function, and reactivity. The scope of the invention is set in considering the elected species and the preferred embodiments. In addition, a reference, which anticipates one group, would not render obvious the other.

Therefore, claims 20-22, 24-25, 27, and 30 are under examination on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 30 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, claim 30 is rejected due to claiming a

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composition for controlling “**unwanted microorganism**”. According to Wikipedia, microorganisms are incredibly diverse and include bacteria, fungi, archaea, and protists, as well as some microscopic plants (called green algae) and animals such as plankton, the planarian and the amoeba. Some also include viruses, but others consider these as non-living. However, the specification does not provide sufficient support for all the “unwanted microorganisms”, which the instantly claimed compositions intend to control. To overcome the rejection, Applicants may either point out the support in the specification in the reply, or delete the intend-to-use term “for controlling unwanted microorganisms”.

Claim Rejections - 35 USC § 103(a)

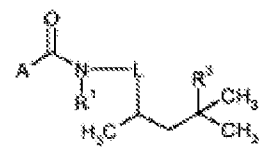
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

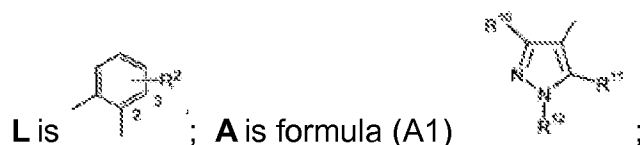
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 20-22, 24-25, 27, and 30 are rejected under 35 U.S.C. 103 (a) as unpatentable over *German Patent Publication No. DE10136065* by Elbe et al. ("the '065 publication") with publication date 02/06/2003, also see the corresponding U.S. Publication US20040204470, in view of the teaching of Bioisosterism by Patani et al., *Chem. Rev.*, 1996, Vol. 96, p.3147-3176.



Applicants' claims relate to a compound of the Formula (I)

wherein:

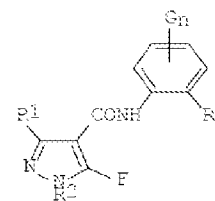


R¹ is a hydrogen or C₁-C₈-alkyl;

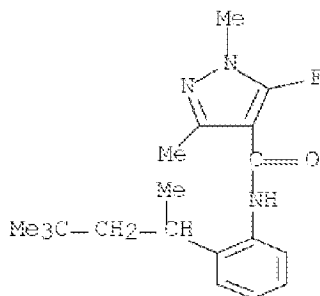
R² represents hydrogen, fluorine, chlorine, methyl, or trifluoromethyl,

R³ is C₁-C₈-alkyl; and the remaining substituents are defined according to claim 1, or a composition comprising a compound thereof.

Determination of the scope and content of the prior art (MPEP §2141.01)



The '065 publication discloses a compound of general formula



and a specific compound (I-1)

(CAS RN 494793-45-2) at

page 48 of the specification, and a composition for pharmaceutical or biological applications.

Patani *et al.* teach that ring hydrogen, $-F$, or $-Cl$ as bioisosterism can be interchangeable according to Grimm's Hydride Displacement Law.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the '065 compound and the instantly claimed inventions is that the '065 prior art compound having R^{11} as $-F$, but does not teach a compound having R^{11} as $-H$, or $-Br$ according to instant invention.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

The instantly claimed invention would have been obvious over the '065 publication, because one skilled in the art would have been motivated to prepare a bioisosterism of the prior art '065 compound with the expectation of obtaining compounds which could be used in the related compounds or composition for pharmaceutical utility. The motivation to make the claimed compounds derives from

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the expectation that structurally similar compounds such as bioisosterism would possess similar activity (i.e. pharmacological use). Therefore, the instantly claimed compounds would have been suggested to one skilled in the art.

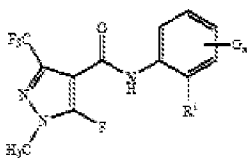
Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

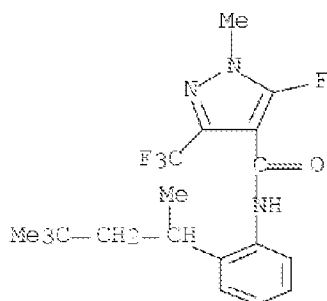
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 20-22, 24-25, 27, and 30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,358,214 (“the ‘214 patent”). Although the conflicting claims are not identical, they are not patentably distinct from each other because the ‘214 patent



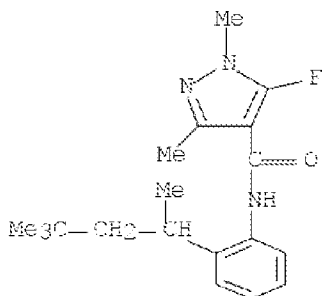
claimed a compound of formula (I) , with a specific compound



, which renders the instant claims obvious as –H vs. –F

bioisosterism, see the analysis above.

Claims 20-22, 24-25, 27, and 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-35, 37, and 46 of co-pending U.S. Patent Publication No. US20040204470 (“the ‘470 publication”). Although the conflicting claims are not identical, they are not patentably distinct from each other because the ‘470 publication disclose a specific compound

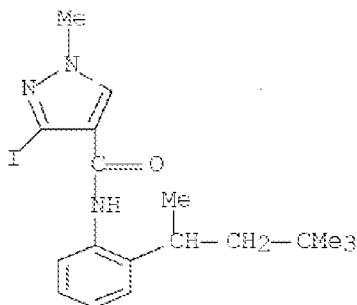


, which renders the instant claims obvious as –H vs. –F

bioisosterism, see the analysis above.

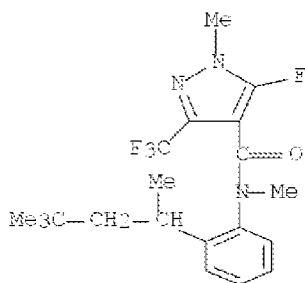
Claims 20-22, 24-25, 27, and 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-12 and 14 of co-pending U.S. Patent Publication No. US20070066673 (“the ‘673 publication”). Although the conflicting claims are not identical, they are not patentably distinct from each other because the ‘673 publication disclose a specific compound

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reads on the claims, which renders the instant claims obvious as –H vs. –F bioisosterism, see the analysis above.

Claims 20-22, 24-25, 27, and 30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13-18 of co-pending U.S. Patent Publication No. US20070072930 (“the ‘930 publication”). Although the conflicting claims are not identical, they are not patentably distinct from each other because the ‘930 publication disclose a specific compound



reads on the claims, which renders the instant claims obvious as –H vs. –F bioisosterism, see the analysis above.

Claim Objection

Claim 25 is objected to under 37CFR 1.75 as being a substantial duplicate of claim 20. Claims 20 and 25 are the same, because **A** is the same as **A1** in scope. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after

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allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 21-22, 24-25, 27, and 30 are objected because they depend on the rejected claim 20.

Conclusion

- Claims 21-22, 24-25, 27, and 30 are objected to.
- Claims 20-22, 24-25, 27, and 30 are rejected.
- Specification is objected to.

Claim Objection

Claims 1-4, 6, 10, 12, 15, 17-18, and 21-23 are objected to for containing elected and non-elected subject matter. The elected subject matter has been identified supra.

Conclusion

- Claims 1-4, 6, 10, 12, 15, 17-18, and 21-23 are objected to.
- Claims 1-4, 6, 10, 12, 15, 17-18, and 21-23 are rejected.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Chu whose telephone number is 571-272-5759. The examiner can normally be reached between 7:00 am - 3:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Status Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Yong Chu/
Patent Examiner
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